



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/548,892	04/13/2000	Thomas I. Insley	52942USA6A	7476
32692	7590	12/11/2003		
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			EXAMINER	
			MARKHAM, WESLEY D	
			ART UNIT	PAPER NUMBER
			1762	

DATE MAILED: 12/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Advisory Action</b>	<b>Application No.</b> 09/548,892	<b>Applicant(s)</b> INSLEY ET AL.
	<b>Examiner</b> Wesley D Markham	<b>Art Unit</b> 1762

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 11 September 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

**PERIOD FOR REPLY** [check either a) or b)]

- a)  The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.
- b)  The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.  
ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1.  A Notice of Appeal was filed on \_\_\_\_\_. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2.  The proposed amendment(s) will not be entered because:
  - (a)  they raise new issues that would require further consideration and/or search (see NOTE below);
  - (b)  they raise the issue of new matter (see Note below);
  - (c)  they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
  - (d)  they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_.

3.  Applicant's reply has overcome the following rejection(s): The objection to Claim 12.
4.  Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5.  The a) affidavit, b) exhibit, or c) request for reconsideration has been considered but does NOT place the application in condition for allowance because: \_\_\_\_\_.
6.  The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7.  For purposes of Appeal, the proposed amendment(s) a) will not be entered or b) will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: 25-31 and 34-50.

Claim(s) objected to: 5,6,8,18-21 and 51.

Claim(s) rejected: 1,3,4,7,9-17,22,32,33 and 52.

Claim(s) withdrawn from consideration: 23 and 24.

8.  The drawing correction filed on \_\_\_\_\_ is a) approved or b) disapproved by the Examiner.
9.  Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_.
10.  Other: see attached Office Action

WDM

**DETAILED ACTION / ADVISORY ACTION**

***Response to Amendment***

1. Acknowledgement is made of the complete **LISTING OF THE CLAIMS** submitted by the applicant on 9/11/2003, in which a typographical error in Claim 12 was corrected. As such, the objection to Claim 12 set forth in paragraph 3 of the previous Office Action (i.e., the final Office Action, paper #26, mailed on 9/11/2003) is withdrawn. Claims 1 and 3 – 52 are currently pending in U.S. Application Serial No. 09/548,892, with Claims 23 and 24 standing withdrawn from consideration by the examiner as being drawn to a non-elected invention, and an Advisory action follows.

***Response to Arguments***

2. Applicant's arguments filed on 9/11/2003 have been fully considered but they are not persuasive.
3. First, the applicant argues that Popov et al. do not teach condensing vapor, let alone condensing vapor from the atmosphere of a controlled environment. The applicant states that, in order for vapor to condense, energy must be added to or taken away from the system, and Popov et al.'s process of passing a stream of liquid vapor through the cloth does not inherently add or take away energy from the system and therefore cannot inherently result in condensation. In response, the examiner disagrees with the applicant's argument. Please note that the examiner has not argued or stated that the process of Popov et al. inherently results in condensation. On the contrary, Popov et al. explicitly teach that the vapor is condensed on the

layer of filaments (see Example 1). The applicant's statement that Popov et al. does not teach the requisite change in energy for condensation to occur is simply supposition on the part of the applicant and appears to be incorrect, as the vapor in Popov et al. is taught to condense. In addition, please note the applicant's definition of "condensation" on page 2 of the specification: condensing is "altering to another and denser form, e.g., reducing gas or vapor to a liquid". This is exactly what occurs in Popov et al. – vapors are altered to liquid form.

4. Second, the applicant argues that Beach et al. also do not teach or suggest condensing vapor on a dielectric article. To the contrary, Beach et al. condense vapor on an electrode. In response, the examiner has not relied upon Beach et al. to teach condensing vapor on a dielectric article – the combination of Popov et al. and Angadjivand et al. teaches this limitation. The examiner has simply relied upon Beach et al. to show the condensation of a vapor onto a substrate from the atmosphere of a chamber to form an electret.
5. Third, the applicant argues that the purpose of the deposition chamber and of the condensation step of Beach et al. is to form a polymer film, while the method of Popov et al. does not require the formation of a polymer film. The applicant then states that nothing in Beach et al. teaches or suggests the need to use a deposition chamber for vapors of non-polymerizable liquids (i.e., the liquids taught by Popov et al.), and one of ordinary skill in the art would not think to use the deposition chamber of Beach et al. in practicing the method of Popov et al. In response, the examiner disagrees with this argument. Popov et al. teach condensing vapor onto an article

and then drying the article to produce an electret. One of ordinary skill in the art would have been motivated to carry out the deposition process of the combination of Popov et al. and Angadjivand et al. in a chamber (as taught by Beach et al.) with the reasonable expectation of successfully and advantageously performing the condensation process in an environment in which process parameters such as temperature, pressure, etc. can be readily and easily monitored and controlled (i.e., as opposed to performing the process outside of a chamber, in which case the control of process parameters would be expected to be more difficult). This advantage of using a chamber would be equally applicable to polymerizable vapors (such as those taught by Beach et al.) and non-polymerizable vapors (such as those taught by Popov et al.).

6. Fourth, the applicant argues that nothing in Popov et al. or Angadjivand et al. or Beach et al. teaches or suggests increasing the amount of alcohol vapor present in a controlled environment of a chamber so as to cause the vapor to condense on a cloth or web. In response, the examiner disagrees. The combination of Popov et al., Angadjivand et al., and Beach et al. reasonably suggests condensing vapors of isopropyl alcohol, ethanol, etc. onto a layer of filaments / cloth in a chamber by passing the vapors through the layer. In other words, the amount of alcohol vapor (i.e., a property) present in the controlled environment of the chamber (i.e., the environment in which the cloth is treated) is increased (i.e., altered from a lower value, specifically nothing (i.e., the amount of alcohol vapor present in the atmosphere prior to introducing the vapor), to a higher value, specifically the amount

of alcohol vapor present in the chamber during the condensation process), thereby causing the vapor to condense on the cloth or web.

7. Fifth, the applicant argues that nothing in the tribocharging method of Coufal et al. teaches or suggests anything about condensing vapor from the atmosphere of a controlled environment onto a dielectric article, let alone that such condensing will impart an electret charge to the dielectric article. In response, the examiner has not stated or argued that Coufal et al. teaches such a limitation – the combination of Popov et al. and Angadjivand et al. teaches this limitation. The examiner has simply relied upon Coufal et al. to teach specific examples of preferred liquids (i.e., liquids having a desired dielectric constant, such as water or fluorocarbons) that can be used to charge a material and form an electret.
8. Sixth, the applicant argues that the purpose of the steam in Pike et al. is to split the conjugate fibers, while Angadjivand et al. do not seek to destroy the integrity of the fibers of their non-woven web. The applicant then states that Pike et al. do not teach or suggest that their spray of steam can impart an electret charge to a web, and one of ordinary skill in the art would have no reason to look to Pike et al. In response, the examiner disagrees with this argument. The fact that the steam in Pike et al. splits the conjugate fibers does not imply that the integrity of the fibers / substrate is destroyed. Further, one of ordinary skill in the art would have reasonably expected that, since the meltblown microfiber web of Angadjivand et al. is not destroyed by a stream of water droplets at a pressure of, for example, 10 to 500 psi, the web would also not be destroyed by the spray of steam taught by Pike et al. Briefly,

Angadjivand et al. teaches the production of an electret by wetting a non-woven fiber web with a stream of water droplets and then drying the web (Abstract). Pike et al. teaches that wetting a non-woven fiber web can be performed by contacting the fibers with either a hot water spray, which is the process taught in Angadjivand et al., or with steam (i.e., water vapor) (Col.8, lines 40 – 46). As such, one of ordinary skill in the art would have been motivated to wet the non-woven fiber web of Angadjivand et al. with steam as taught by Pike et al. with the reasonable expectation of obtaining similar results, i.e., of successfully wetting the non-woven fiber web, regardless of whether the wetting is done with a spray of misted water droplets (as taught by Angadjivand et al.) or with a steam spray (as taught by Pike et al.). Please note that no unexpected results have been shown for wetting the web by condensation of a vapor as opposed to spraying the web with a fine mist of water droplets as taught by Angadjivand et al.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley D Markham whose telephone number is (703) 308-7557. The examiner can normally be reached on Monday - Friday, 8:00 AM to 4:30 PM.

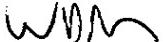
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310.

Application/Control Number: 09/548,892  
Art Unit: 1762

Page 7

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Wesley D Markham  
Examiner  
Art Unit 1762

  
WDM

  
SHIRLEY P. BECK  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700